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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,601	10/06/2003	Mark E. Popilek	GP-303455	5956
7590	03/17/2006		EXAMINER	
CHRISTOPHER DEVRIES General Motors Corporation Mail Code 482-C23-B21 P.O. Box 300 Detroit, MI 48265-3000				RUTLAND WALLIS, MICHAEL
		ART UNIT		PAPER NUMBER
		2835		
DATE MAILED: 03/17/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/679,601	POPILEK, MARK E.	
	Examiner	Art Unit	
	Michael Rutland-Wallis	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 06 October 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-28 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 06 October 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 3 and 14 are objected to in line 4 the limitation "substantially perpendicular" it is unclear the office the range and scope of this limitation.

Claim 15 is objected to in line 4 the limitation "substantially parallel" it is unclear the office the range and scope of this limitation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moffi et al. (U.S. Pub. No. 20030109290) in view of Umebayashi (U.S. Pat. No. 4,608,550)

With respect to claim 1 Moffi teaches a motor vehicle control system comprising: a rotary scroll wheel (item 116) coupled to a switch (item 120 or 122) and mounted on a steering wheel rim (item 115) of a motor vehicle and configured to adjust a function of the motor vehicle. Moffi teaches the use of a system device item 128 while not taught or disclosed as a controller Moffi is understood to pose a controller at monitor the condition of said switches. Moffi is silent on the use of the controller coupled at the switch

and configured to receive a signal from the switch and to cause adjustment of the function in response to the signal. Umebayashi teaches the use of a controller item 80 coupled to a switches item 90 and configured to receive a signal from the switch and to cause adjustment of the function in response to the signal. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Moffi to include the use of a controller of Umebayashi to monitor the condition of the switches in order to affect the function indicated by the user through the switches.

Claims 1-23 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Worrell et al. (U.S. Pub. No. 20050021190) in view of Moffi et al. (U.S. Pub. No. 20030109290)

With respect to claims 1 and 8 Worrell teaches a motor vehicle control system comprising: a plurality of rotary scroll wheels (see Fig. 3B or see item 82 in Fig. 7 "scroll switches see paragraph 0092 for example teaches the use of more than one scroll switch) and a plurality of switches (Worrell discloses numerous switches such as items 34 and 30), each of the plurality of switches coupled to and actuatable by one of the plurality of rotary scroll wheels (Worrell teaches the scroll wheel may be used to actuate the output of switches 34 30 and 26), and each of the plurality of rotary scroll wheels mounted on a steering wheel of the motor vehicle, at least one of the plurality of rotary scroll wheels mounted in an upper right hand quadrant (see paragraph 0078 3 o'clock and 9 o'clock similar location) of the steering wheel and at least one of the plurality of rotary scroll wheels located in an upper left hand quadrant of the steering wheel. Worrell teaches the implementation of the device using a controller (paragraph 0117). Worrell

does not teach the placement of a scroll switch on the rim of the steering wheel. Moffi teaches the placement of a scroll wheel (item 116) on the rim of the steering wheel. It would have been obvious to one of ordinary skill in the art at the time of the invention to place the scroll wheel on the rim of the steering wheel in order increase the convenience and usability of the scroll wheel.

With respect to claims 9 and 2 Worrell teaches the use of a display unit (item 20) coupled to the control unit and configured to display an indication of the motor vehicle function.

With respect to claim 3 Worrell teaches the switch comprises a rotary switch actuatable Fig. 3 by rotating the scroll wheel about an axis and a linear switch (see Fig. 3 push in) actuatable by pressing the scroll wheel in a direction substantially perpendicular to the axis.

With respect to claim 4 While Worrell teaches the switch may be mounted in any location convenient to the operator and Moffi teaches the scroll switch may be placed on the rim of the steering wheel. It would have been obvious to one of ordinary skill in the art at the time of the invention to place the scroll switch on the rim of the steering wheel so as to align the axis of the linear switch and the scroll switch so they are substantially perpendicular.

With respect to claims 5 and 18 Worrell teaches the rotary scroll wheel comprises a generally circular cross section having a crenulated periphery, see detail lines indicating crenulations in Fig 7.

With respect to claims 6 and 16 Worrell teaches the rotation of the switch is used to scroll through menus or functions to be controlled and feedback of said scrolling may be seen on the display as the scroll wheel is rotated through a number of degrees.

With respect to claim 7 Worrell as modified by Moffi teaches the remote pad is located on the rim of the steering wheel, it would have been obvious to one of ordinary skill in the art at the time of the invention to move to another location, which may be more convenient for the driver/user to increase usability.

With respect to claim 10 Worrell teaches the placement of a plurality of display units (not pictured see paragraph 0046), each coupled to the control unit and each responsive to a signal from a respective one of the plurality of switches to display an indication of a motor vehicle function.

With respect to claim 11 Worrell teaches the placement a plurality of placements of the rotary scroll wheels to meet the convenience of the operator i.e. front, back, middle or the side of the steering wheel.

With respect to claim 12-13 Worrell teaches the rotary switches which are used to actuate specific motor vehicle function and each of the plurality of rotary scroll wheels can be configured cause a specified motor vehicle function to react to a signal from an associated one of the plurality of rotary scroll wheels, see Fig 14-5 or 26 which shows menu diagrams vehicle functions which may be selected with the scroll wheel.

With respect to claim 14 Worrell teaches the scroll wheels contain rotary type switches, which are actuated by the rotation of the scroll wheel as well as linear push in type of switch, which is pushed in a direction perpendicular to the axis of rotation.

With respect to claim 15 Worrell teaches the axis is substantially parallel to a radius of the steering wheel rim (see Fig. 7 for example).

With respect to claim 17 Worrell teaches the linear switch provides similar feedback as the rotation of the scroll wheel, such as the operator tactile feedback of pressing the linear switch the display indicates the operator's selection.

With respect to claims 19 and 25 Worrell teaches controlling the a motor vehicle having a plurality of rotary scroll wheels mounted on a steering wheel of the motor vehicle, each rotary scroll wheel controlling one of a plurality of rotary switches and one of a plurality of linear switches (see in Fig. 3B for example Worrell teaches the scroll wheel may be pushed in), each of the plurality of rotary switches and each of the linear switches coupled to a control unit and the control unit (paragraph 0117) coupled to a display (item 20). While Worrell is silent on the method steps of programming the control unit it would have been obvious to one of ordinary skill in the art at the time of the invention to program the control unit to enable its operation. Worrell teaches a menu is displayed see for example Fig 14-5 or 26 and Worrell teaches select one of the plurality of motor vehicle functions in response to activation of one of the linear switches. Worrell further teaches the use of submenus see Fig. 26 for example primary menu, secondary menu, phone list and add sub menu button also see paragraphs 0113-0118 for a detailed description of the graphical interface. Worrell also teaches the activation or selection of a function is response to rotation of a scrolling switch and or the use of pushbutton or linear type switches.

With respect to claims 20 and 27-28 Worrell teaches the using the scroll switches to control the vehicles cruise control speed see paragraph 0115.

With respect to claim 21 Worrell teaches a menu comprising a plurality of motor vehicle functions to be displayed on the display using the switches to cause a menu comprising entertainment system, HVAC system (Fig. 13) and cruise control (see paragraph 0115) to be displayed on the display.

With respect to claim 22 Worrell teaches the control unit is used to monitor and control the switches on located on the steering wheel while a double clicking the linear type switches is not disclosed by Worrell. As double clicking is well known type on switch condition and monitoring for such a condition is well known therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to program the control the to monitor the switches for a double clicking operation to affect operation of function and decreasing the number of excess switches.

With respect to claim 23 Worrell teaches holding down of a linear type switch a predetermined length of time to cause the switch to "seek" a station on the radio for example.

With respect to claim 26 Worrell teaches the activation of the menu of motor vehicle functions in response to rotation of one of the plurality of rotary scroll wheels to select the one of the plurality of menu of motor vehicle functions and confirmation of the selection by pushing the one of the plurality of rotary scroll wheels to click one of the plurality of linear switches.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Worrell et al. (U.S. Pub. No. 20050021190) in view of Moffi et al. (U.S. Pub. No. 20030109290) as applied to claims 1 and 8 above, and further in view of Masuda et al. (U.S. Pat. No. 5,936,215) Worrell as modified by Moffi does not teach the scroll wheels being inactivated by the control unit in response to the steering wheel being rotated by a predetermined amount. Masuda teaches a steering control unit which is capable of monitoring the rotation and position of the steering wheel and deactivation of a plurality of switches based on the rotation (column 10 lines 32-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify Worrell as modified by Moffi to further include a sensor to monitor the position and rotation of the steering wheel and deactivate the scroll switches in response to the rotation in order to eliminate accidental switching.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Badarneh (U.S. Pub. No. 20030023353) teaches a device with a rotating switch on a vehicle steering wheel, Wessler et al. (U.S. Pub. No. 20040030807) teaches a scroll switch used on a vehicle steering wheel, Takahashi et al. (U.S. Pub. No. 20040050673) teaches the use of scrolling switches located on steering wheel to control vehicle functions, Hagermoser et al. (U.S. Pub. No. 20050052426) teaches the use of a tactile responsive switches located on a steering wheel, Durocher (U.S. Pat.

No. 6,538,220) teaches rotating switches capable of scrolling through a menu of vehicle functions see Fig. 2, Worrell (U.S. Pat. No. 6,571,154) teaches a state of the art scroll wheel assembly located on a vehicle steering wheel, Noguchi et al. (U.S. Pat. No. 6,930,652) teaches a state of the art scroll wheel and associated plurality of switches to be used in a vehicle or vehicle steering wheel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rutland-Wallis whose telephone number is 571-272-5921. The examiner can normally be reached on Monday-Thursday 7:30AM-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MRW


LYNN FEILD
SUPERVISORY PATENT EXAMINER